

Claims

1. Posture diagnosis equipment capable of diagnosing a posture of an examinee for use in combination with a photographing device for photographing the posture of the examinee and a foot pressure measuring device for measuring a foot pressure of the examinee, the posture diagnosis equipment comprising:

photograph data receiving means to receive photograph data obtained by photographing of the posture of the examinee from plural predetermined directions with the photographing device;

photograph data display means to display the photograph data received by the photograph data receiving means;

foot pressure data receiving means to receive foot pressure data obtained by measurement of the foot pressure of the examinee with the foot pressure measuring device;

gravitational center line calculating means to calculate a gravitational center line of the examinee which passes vertically through a gravitational center of the examinee based on the foot pressure data received by the foot pressure data receiving means;

posture diagnosis point coordinates receiving means to receive the coordinates of a posture diagnosis point serving as an indicator for diagnosis of the posture of the examinee, the posture diagnosis point being specified relative

to the photograph data displayed by the photograph data display means; and

figure judgment means to diagnose and typify the posture of the examinee based on the gravitational center line
5 calculated by the gravitational center line calculating means and the coordinates of the posture diagnosis point received by the posture diagnosis point coordinates receiving means.

2. The posture diagnosis equipment according to claim 1,
10 wherein the photograph data receiving means is operative to receive plural photograph data items related to a single photographing direction,

the posture diagnosis equipment further comprising averaging means to sum up and then average the plural
15 photograph data items related to the single photographing direction received by the photograph data receiving means to obtain a single photograph data item related to the single direction,

the photograph data display means being operative to
20 display the photograph data having undergone the averaging process by the averaging means.

3. The posture diagnosis equipment according to claim 1,
further comprising sharpening means to sharpen the photograph
25 data, wherein

the photograph data display means is operative to

display the photograph data having undergone the sharpening process by the sharpening means.

4. The posture diagnosis equipment according to claim 1,
5 further comprising inclination error correction means to correct the photograph data to reduce an inclination error which is a degree of inclination of an upper edge of the foot pressure measuring device appearing in the photograph data relative to a horizontal axis of the photograph data, wherein
10 the photograph data display means is operative to display the photograph data having undergone the correction process by the inclination error correction means.

5. The posture diagnosis equipment according to claim 4,
15 wherein:
the foot pressure measuring device has inclination measurement reference points as a reference for measurement of the inclination error at predetermined locations thereon;
the photograph data to be received by the photograph
20 data receiving means contains inclination measurement reference point data on the inclination measurement reference points photographed; and
the inclination error correction means is operative to measure the inclination error based on the inclination
25 measurement reference point data contained in the photograph data and then reduce the inclination error.

6. The posture diagnosis equipment according to claim 5,
wherein:

the foot pressure measuring device has plural
5 inclination measurement reference points located on a
horizontal straight line on a surface thereof facing the
photographing device;

the photograph data to be received by the photograph
data receiving means contains inclination measurement
10 reference point data on the plural inclination measurement
reference points photographed; and

the inclination error correction means is operative
to reduce the inclination error, regarding as the inclination
error a degree of inclination of a straight line linking the
15 plural inclination measurement reference points appearing in
the photograph data relative to the horizontal axis of the
photograph data.

7. The posture diagnosis equipment according to claim 5,
20 wherein:

the inclination measurement reference points are
operative to blink;

the photograph data receiving means is operative to
receive a photograph data item obtained when the inclination
25 measurement reference points are bright and a photograph data
item obtained when the inclination measurement reference

points are dark; and

the inclination error correction means is operative to detect the inclination measurement reference points from the photograph data items.

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8. The posture diagnosis equipment according to claim 1, further comprising gravitational center line display means to display the gravitational center line calculated by the gravitational center line calculating means in a manner to
10 superimpose the gravitational center line on the photograph data displayed by the photograph data display means.

9. The posture diagnosis equipment according to claim 1, further comprising reference position determining means to
15 determine a reference position based on a position which is applied with pressure sensed by the foot pressure measuring device when a reference member for use in determining the reference position is placed on the foot pressure measuring device.

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10. The posture diagnosis equipment according to claim 9, further comprising horizontal distance calculating means to calculate a horizontal distance between the gravitational center line and a vertical center line passing through the
25 reference position determined by the reference position determining means.

11. The posture diagnosis equipment according to claim 1,
wherein the photograph data display means is capable of
enlarged display of a region in the photograph data

5 corresponding to a region around the posture diagnosis point
when the posture diagnosis point coordinates receiving means
receives the coordinates of the posture diagnosis point.

12. The posture diagnosis equipment according to claim 1,

10 wherein the photograph data display means is capable of
displaying information indicative of the name and approximate
location of the posture diagnosis point when the posture
diagnosis point coordinates receiving means receives the
coordinates of the posture diagnosis point.

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13. The posture diagnosis equipment according to claim 1,
wherein the figure judgment means is capable of visually
outputting the posture of the examinee typified with use of a
two-dimensional or three-dimensional model.

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14. The posture diagnosis equipment according to claim 13,
wherein the figure judgment means is operative to categorize
posture diagnosis points as to whether or not the posture
diagnosis points are in preferable positions based on

25 positional relation between correlated ones of the posture
diagnosis points and then visualize the posture of the

examinee in a manner to express resulting categories clearly.

15. The posture diagnosis equipment according to claim 13,
wherein the figure judgment means is operative to visualize
5 the posture of the examinee in a manner to express a stretched
or contracted condition of body tissue intervening between
correlated ones of the posture judgment points.

16. The posture diagnosis equipment according to claim 1,
10 further comprising:

foot pressure typifying means to typify the foot
pressure data received by the foot pressure data receiving
means; and

foot pressure pattern display means to display a
15 pattern of foot pressure typified by the foot pressure
typifying means.

17. The posture diagnosis equipment according to claim 1,
further comprising advice information output means to output
20 information serving as advice about the posture of the
examinee based on the posture of the examinee typified by the
figure judgment means.

18. A program for use in the configuration of posture
25 diagnosis equipment as recited in claim 1, which causes a
computer to function at least as:

photograph data receiving means to receive photograph data obtained by photographing of a posture of an examinee from plural predetermined directions with a photographing device;

5 photograph data display means to display the photograph data received by the photograph data receiving means;

foot pressure data receiving means to receive foot pressure data obtained by measurement of a foot pressure of
10 the examinee with a foot pressure measuring device;

gravitational center line calculating means to calculate a gravitational center line of the examinee which passes vertically through a gravitational center of the examinee based on the foot pressure data received by the foot
15 pressure data receiving means;

posture diagnosis point coordinates receiving means to receive the coordinates of a posture diagnosis point serving as an indicator for diagnosis of the posture of the examinee, the posture diagnosis point being specified relative
20 to the photograph data displayed by the photograph data display means; and

figure judgment means to diagnose and typify the posture of the examinee based on the gravitational center line calculated by the gravitational center line calculating means
25 and the coordinates of the posture diagnosis point received by the posture diagnosis point coordinates receiving means.